



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,300	07/09/2003	Melvin D. Frerking	BS01-055-C2	7112

7590 12/16/2005  
Withers & Keys, LLC  
P.O. Box 71355  
Marietta, GA 30007-1355

EXAMINER
----------

LUK, LAWRENCE W

ART UNIT	PAPER NUMBER
----------	--------------

2187

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/615,300	<b>Applicant(s)</b> FRERKING ET AL.	
	<b>Examiner</b> Lawrence W. Luk	<b>Art Unit</b> 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 53-75 and 77-79 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 53-75 and 77-79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Terminal Disclaimer filed has been received on July 01, 2005.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 53, 54, 56, 57 and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramsier et al. (5,844,400).

### Claim 53

As to claim 53, Ramsier et al. discloses in **figures 2-4**, a portable battery recharge station **(90)** comprising: a supervisory circuit **(200)** associated with a voltage requirement (**see column 2 lines 22-26**) of a secondary battery **(180)**; and a voltage converter **(204)** in communication with the supervisory circuit **(200)**, wherein when the secondary battery **(180)** is in contact with the supervisory circuit **(200)**, the supervisory circuit **(200)** instructs the voltage converter to supply a voltage to the secondary battery **(180)** in accordance with the voltage requirement. (**see column 7, lines 47-67**).

**Claim 54**

As to claim 54, Ramsier et al. discloses in **figures 1A, 1B and 2**, a holder configured to receive the secondary battery (66) **(cellular phone 16 has a battery compartment 34 to hold the battery 66 and slide into recess 104 of the cradle 90).**

**Claim 56**

As to claim 56, Ramsier et al. discloses in **figures 3 & 4**, the voltage converter is configured to receive power from a power source, converts the power in accordance with the voltage requirement, and supplies the converted power to the secondary battery. **(see paragraph bridging column 7 and 8).**

**Claim 57**

As to claim 57, Ramsier et al. discloses in **figures 4**, the power source is an electrical outlet **(130).**

**Claim 75**

As to claim 75, Ramsier et al. discloses in **figures 3 & 4**, a method for recharging secondary batteries comprising: obtaining a voltage requirement of a secondary battery **(180)**, wherein the obtaining involves a supervisory circuit **(200)** in communication with the secondary battery **(180)**; and instructing a voltage converter **(204)** to receive power from a power source **(130)**, to convert the power to meet the voltage requirement, and supply the converted power to the secondary battery **(180).** **(see paragraph bridging column 7 and 8).**

Art Unit: 2187

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 66, 67, 68 and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Bork et al. (6,633,932).

**Claim 66**

As to claim 66, Bork et al. discloses in **figures 13, 14, 16, 17 & 19**, a battery charging system comprising: a charging cord **(16, 58 )** having a first end that is configured to mate with a device having a secondary battery **(14)**; and a portable battery recharge station **(26)** having a voltage converter **(computer 26 has a voltage converter, see column 7, lines 65-68)** and a supervisory circuit **(electronic circuitry 42, 62 as supervisory circuit within connector 40, 60 for charging the cellular phone battery 14, see column 6, lines 43-45 and column 7, lines 13-15)**, the portable battery recharge station is configured to receive a second end **(38)** of the charging cord **(16, 58)**, wherein when the charging cord **(16, 58)** is connected to the device **(cellular phone 14 )** and the portable battery recharge station **(26)**, the supervisory circuit **(42, 62)** determines a voltage requirement of the secondary battery **(14)** and the supervisory circuit then instructs the voltage converter to supply a voltage

Art Unit: 2187

to the secondary battery (14) in accordance with the voltage requirement. (see column 8, lines 8-17).

**Claim 67**

As to claim 57, Bork et al. discloses in **figures 13 & 14**, the voltage converter is configured to receive power from a power source, converts the power in accordance with the voltage requirement, and supplies the converted power to the secondary battery. (see column 7, lines 54-67).

**Claim 68**

As to claim 68, Bork et al. discloses in **figures 13 & 21**, the power source is an electrical outlet (20).

**Claim 70**

As to claim 70, Bork et al. discloses in **figures 13**, the power source is one of a **replaceable battery, a rechargeable battery**, a renewable battery, and a renewable fuel cell.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 77-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsier et al. (5,844,400) in view of McClure et al. (5,198,743).

**Claims 77 and 80**

As to claim 77, Ramsier et al. discloses the elements as in claim 75.

Ramsier et al. does not disclose expressly the limitation of “ **the obtaining involves a programming resistor**”.

McClure et al. discloses in **figure 1, column 5, lines 13-36**, determining a voltage requirement of the battery based on a resistance value of the programming resistor.

Ramsier et al. and McClure et al. are analogous art because they are from the “same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include a programming resistor to determine a voltage requirement of the battery.

The suggestion/motivation for doing so would have been to enable the microprocessor to determine the battery current through control of the voltages and sensing the output of the comparator for increased control of circuitry (**column 5, lines 33-36**).

Therefore, it would have been obvious to combine McClure et al. with the device of Ramsier et al. for the benefit of determining a voltage requirement of the secondary battery based on a resistance value of the programming resistor to obtain the invention as specified in claim 77.

**Claim 78**

As to claim 78, Ramsier et al. in view of McClure et al. are applied supra, and McClure et al. further disclose in **figure 1**, the voltage converter receives power from a power source, converts the power in accordance with the voltage requirement, and supplies the converted power to the secondary battery. (**see column 5, lines 27-36**).

**Claim 79**

As to claim 79, Bork et al. in view of McClure et al. are applied supra, and Bork et al. further disclose in **figure 13 & 17**, the programming resistor is associated with a device-specific charging cord (**16, 58**) that is connected to a device housing the secondary battery (**14**). (**see column 2, lines 42-48**).

8. Claims 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bork et al. (6,633,932) in view of McClure et al. (5,198,743).

**Claim 80**

As to claim 80, Bork et al. discloses the elements as in claim 66.

Bork et al. does not disclose expressly the limitation of “ **the obtaining involves a programming resistor**”.

McClure et al. discloses in **figure 1, column 5, lines 13-36**, determining a voltage requirement of the battery based on a resistance value of the programming resistor.

Bork et al. and McClure et al. are analogous art because they are from the “same field of endeavor” and the battery charging art.



At the time of the invention it would have been obvious to a person of ordinary skill in the art to include a programming resistor to determine a voltage requirement of the battery.

The suggestion/motivation for doing so would have been to enable the microprocessor to determine the battery current through control of the voltages and sensing the output of the comparator for increased control of circuitry (**column 5, lines 33-36**).

Therefore, it would have been obvious to combine McClure et al. with the device of Bork et al. for the benefit of determining a voltage requirement of the secondary battery based on a resistance value of the programming resistor to obtain the invention as specified in claim 80.

#### **Claim 81**

As to claim 81, Bork et al. in view of McClure et al. are applied supra, and Bork et al. further disclose in **figure 13 & 17**, the programming resistor is associated with a device-specific charging cord (**16, 58**) that is connected to a device housing the secondary battery (**14**). (**see column 2, lines 42-48**).

9. Claims 58, 60-62, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsier et al. (5,844,400) in view of Rozsypal (2002/0101224).

#### **Claim 58**

As to claim 58, Ramsier et al. discloses the elements as in claim 53.

Ramsier et al. does not expressly disclose the limitation of “the power source is a vehicular battery”.

Rozsypal discloses in **column 1, [0002]**, the power source is a vehicular battery **(for all mobile devices)**.

Ramsier et al. and Rozsypal are analogous art because they are from “the same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a vehicular battery be the power source of Bork et al.

The suggestion/motivation for doing so would have been to provide accurate power delivery to sensitive electronic devices in vehicles **(column 1, [0002])**.

Therefor, it would have been obvious to combine the vehicular battery as taught by Rozsypal for electrical energy systems incorporating electric vehicles with the device of Ramsier et al. for the benefit of powering electrical vehicles with the battery system of Ramsier et al.

#### **Claim 60**

As to claim 60, Ramsier et al. in view of Rozsypal are applied supra, and Rozsypal further disclose in **column 1, [0002]**, the replaceable battery is one of an alkaline battery, a lithium battery, and a zinc-air battery.

#### **Claim 61**

As to claim 61, Ramsier et al. in view of Rozsypal are applied supra, and Rozsypal further disclose in **column 1, [0002]**, the replaceable battery is one of a

**NiCad battery**, a NiH<sub>2</sub> battery, a NiMH battery, a Li-ion battery, a Li-polymer battery, a zinc-air battery, and a lead acid battery.

**Claim 62**

As to claim 62, Bork et al. in view of Rozsypal are applied supra, and Bork et al. further disclose in **figure 13**, the recharger is adapted to receive energy from an external power source **(20)**.

10. Claims 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsier et al. (5,844,400) in view of Bork et al. (6,633,932).

**Claim 55**

As to claim 55, Ramsier et al. discloses the elements as in claim 53.

Ramsier et al. does not expressly disclose the limitation of “further comprising a socket configured to receive the secondary battery”.

Brok et al. discloses in figure 13, comprising a socket configured to receive the secondary battery.

Ramsier et al. and Brok et al. are analogous art because they are from “the same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a socket configured to receive the secondary battery.

The suggestion/motivation for doing so would have been to using a universal serial bus in a computer as a power source and data port for a portable electronic device. **(see column 2, lines 42-44)**.

Therefor, it would have been obvious to combine Brok et al. with Ramsier et al. for the benefit of comprising a socket configured to receive the secondary battery to obtain the invention as specified in claim 55.

**Claim 59**

As to claim 59, Ramsier et al. in view of Bork et al. are applied supra, and Bork et al. further disclose in figure 13, the power source is one of **a replaceable battery, a rechargeable battery, a renewable battery, and a renewable fuel cell.**

11. Claims 69 and 71-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bork et al. (6,633,932) in view of Rozsypal (2002/0101224).

**Claim 69**

As to claim 69, Bork et al. discloses the elements as in claim 66.

Bork et al. does not expressly disclose the limitation of **“the power source is a vehicular battery”**.

Rozsypal discloses in **column 1, [0002]**, the power source is a vehicular battery **(for all mobile devices)**.

Bork et al. and Rozsypal are analogous art because they are from “the same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a vehicular battery be the power source of Bork et al.

The suggestion/motivation for doing so would have been to provide accurate power delivery to sensitive electronic devices in vehicles **(column 1, [0002])**.

Therefore, it would have been obvious to combine the vehicular battery as taught by Rozsypal for electrical energy systems incorporating electric vehicles with the device of Bork et al. for the benefit of powering electrical vehicles with the battery system of Bork et al.

**Claim 71**

As to claim 71, Bork et al. in view of Rozsypal are applied supra, and Rozsypal further disclose in **column 1, [0002]**, the replaceable battery is one of an alkaline battery, **a lithium battery**, and a zinc-air battery.

**Claim 72**

As to claim 72, Bork et al. in view of Rozsypal are applied supra, and Rozsypal further disclose in **column 1, [0002]**, the replaceable battery is one of a **NiCad battery**, a NiH<sub>2</sub> battery, a NiMH battery, a Li-ion battery, a Li-polymer battery, a zinc-air battery, and a lead acid battery.

**Claim 73**

As to claim 73, Bork et al. in view of Rozsypal are applied supra, and Bork et al. further disclose in **figure 13**, the recharger is adapted to receive energy from an external power source **(20)**.

12. Claims 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsier et al. (5,844,400) in view of Hockaday (6,326,097).

**Claims 63**

As to claim 63, Ramsier et al. discloses the elements as in claim 59.

Ramsier et al. does not disclose expressly the limitation of “ **the renewable fuel cell is one of a methanol fuel cell and a renewable electrolyte type cell**”.

Hockaday discloses in column 2, lines 10-24, a micro fuel cell is designed to replace the standard cellular phone battery packs, **column 2, lines 39-43**, and fuel cell can refuel with common ethanol or methanol, an abundant and renewable energy source.

Ramsier et al. and Hockaday are analogous art because they are from the “same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include a renewable fuel cells to replace the renewable battery.

The suggestion/motivation for doing so would have been to enable powering numerous electrical devices including portable electronics and power tools; such as cellular phones, portable PCs, computer peripherals, and portable vacuum cleaners (**see column 1, lines 53-59**).

Therefore, it would have been obvious to combine Hockaday with the device of Ramsier et al. for the benefit of replacing batteries with fuel cells that pack more energy in a smaller space than conventional rechargeable batteries (**see column 1, lines 64-66**).

#### **Claim 64**

As to claim 64, Ramsier et al. in view of Hockaday are applied supra, and further Hockaday discloses in **column 2, lines 26-29**, a reservoir adapted to contain fuel of the renewable battery.

**Claim 65**

As to claim 65, Ramsier et al. in view of Hockaday are applied supra, and further Hockaday discloses in **column 2, lines 20-24**, a gauge adapted to measure a level of the fuel.

13. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bork et al. (6,633,932) in view of Rozsypal (2002/0101224) as applied to claim 72 above and further in view of Hockaday (6,326,097).

**Claim 74**

As to claim 74, Bork et al. in view of Rozsypal discloses the elements as in claim 72.

Bork et al. does not disclose expressly the limitation of “ **the renewable fuel cell is one of a methanol fuel cell and a renewable electrolyte type cell**”.

Hockaday discloses in column 2, lines 10-24, a micro fuel cell is designed to replace the standard cellular phone battery packs, **column 2, lines 39-43**, and fuel cell can refuel with common ethanol or methanol, an abundant and renewable energy source.

Bork et al., Rozsypal and Hockaday are analogous art because they are from the “same field of endeavor” and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include a renewable fuel cells to replace the renewable battery.

The suggestion/motivation for doing so would have been to enable powering numerous electrical devices including portable electronics and power tools; such as cellular phones, portable PCs, computer peripherals, and portable vacuum cleaners **(see column 1, lines 53-59).**

Therefore, it would have been obvious to combine Hockaday with the device of Bork et al. and Rozsypal for the benefit of replacing batteries with fuel cells that pack more energy in a smaller space than conventional rechargeable batteries **(see column 1, lines 64-66).**

14. Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsier et al. (5,844,400) in view of McClure et al. (5,198,743) as applied to claim 77 above and further in view of Bork et al. (6,633,932).

**Claim 79**

As to claim 79, Ramsier et al. in view of McClure et al. discloses the elements as in claim 77.

Ramsier et al. in view of McClure et al. does not disclose expressly the limitation of “ **the programming resistor is associated with a device-specific charging cord that is connected to a device housing the secondary battery**”.

Brok et al. discloses in **figure 13 & 17**, the programming resistor is associated with a device-specific charging cord **(16, 58)** that is connected to a device housing the secondary battery **(14)**. **(see column 2, lines 42-48).**



Ramsier et al., McClure et al. and Bork et al. are analogous art because they are from the "same field of endeavor" and the battery charging art.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the programming resistor is associated with a device-specific charging cord that is connected to a device housing the secondary battery.

The suggestion/motivation for doing so would have been to using a universal serial bus in a computer as a power source and data port for a portable electronic device. **(see column 2, lines 42-44).**

Therefore, it would have been obvious to combine Brok et al. with the device of Ramsier et al. and McClure et al. for the benefit of using charging cord that is connected to a device housing the secondary battery as specified in claim 79.

15. **RELEVANT ART CITED BY THE EXAMINER**

The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure.

See **MPEP 707.05 (c)**.

The following references teach a **mobile phone battery charger with USB interface to computer**.

**US PATENT NUMBER**

6,184,652

**FIGURES**

1-3

**FOREIGN PATENT NUMBER**

**FIGURES**

2000-139032

1-3

***Response to Arguments***

16. Applicant's arguments filed 7/1/2005 have been fully considered but they are not persuasive. Response to arguments are as follows:

In re claim 66, Applicant argues that Bork et al. does not teach that ' the electronic circuitry 42 makes a determination as to the voltage of the cell phone battery'. Bork et al. teach that the USB function controller (46) could negotiate with the USB host the maximum amount of current the host will grant to the connector, and convert the voltage level from Vbus to whatever voltage level is required by the phone. **(see column 7, lines 65-67 and column 8, lines 8-17). The USB function controller negotiates with the USB host and adjusts to whatever voltage is required by the phone. This clearly teaches the supervisory circuit instructing the voltage converter in accordance to the voltage requirement of the battery).**

***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence W Luk whose telephone number is (571)272-2080. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks can be reached on (571)272-4201. The fax phone number for the organization where this application or proceeding are (703)746-7239, (571)272-2100 for regular communication and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to receptionist whose telephone number is (571)272-2100.

LWL  
December 1, 2005

*Lawrence Holt*  
*examiner*  
*12/1/05*